



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/015,915	10/26/2001	Jennifer Harris	S1146/20045	5836
21323	7590	01/30/2004	EXAMINER	
TESTA, HURWITZ & THIBEAULT, LLP HIGH STREET TOWER 125 HIGH STREET BOSTON, MA 02110			EDWARDS, LAURA ESTELLE	
			ART UNIT	PAPER NUMBER
			1734	

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/015,915

Applicant(s)

HARRIS ET AL.

Examiner

Laura E. Edwards

Art Unit

1734

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 31-39 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 40-42 is/are allowed.
- 6) ☒ Claim(s) 1-30 and 43 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 012502.
- ☐ Interview Summary (PTO-413) Paper No(s). ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other:

Election/Restrictions

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-30 and 40-43, drawn to a method, classified in class 264, subclass 78.
- II. Claims 31-39, drawn to an apparatus, classified in class 425, subclass 376.1.

Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used for a materially different process such as making shaped plastic articles including furniture moulding.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Mr. Michael Brodowski left a voice mail message on 1/19/04 whereby a provisional election was made with traverse to prosecute the invention of Group I, claims 1-30 and 40-43. Affirmation of this election must be made by applicant in replying to this Office action. Claims 31-39 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Art Unit: 1734

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the lubricant applicator roll (160, see spec., page 24, line 15) as recited in claim 13 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

Claims 15 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 15, line 3, Applicants recite that the rollers of the first and second roll stands are "driven at the same speed but faster". It is unclear whether the rolls of both roll stands are driven at the same speed or at different speeds. Clarification is necessary.

Art Unit: 1734

In claim 28, "said polyamide" lacks antecedent basis. It appears that this claim should depend from claim 1.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 6, 7, 14, 18, 19, 24, 25, 27-30, and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Boocock (US 4,802,886).

Boocock teaches a continuous process for the manufacture of a ring-dyed filamentary material comprising the steps of continuously extruding a polymer melt from an extruder to form a filament; and continuously feeding the extruded filament into a tank containing a dye solution and maintaining the filament in the tank for a predetermined period of time to provide a ring-dyed filament having an outer cross-sectional region colored with said dye and an inner cross-sectional region not colored with said dye (see col. 4, lines 1-19 and col. 5, lines 6-9).

With respect to claims 3 and 19, see quenching or cooling and rinsing, see col. 4, lines 13-16.

With respect to claim 6, see chart in col. 5, lines 40+ with column heading of "Dyebath Contact Time".

With respect to claims 7, 14, 25, 27, 28, 29, and 30, see col. 2, lines 15-21 and col. 3, lines 38-51.

Art Unit: 1734

With respect to claim 18, see col. 4, lines 40-48 and see the chart in col. 5, lines 40+ for dyebath temperature.

With respect to claim 24, see col. 5, lines 27-30.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boocock (US 4,802,886).

Boocock teaches a continuous process for the manufacture of a ring-dyed filamentary material as mentioned above but is silent concerning the filament being uniform in thickness. However, Boocock recognizes that the filamentary material can be extruded to be of a specific diameter (i.e., 3mm) in Example I in col. 5. and in light of such a teaching, one of ordinary skill

Art Unit: 1734

in the art would expect the filament to be uniformly 3mm in diameter and therefore would be of a uniform thickness.

Claims 4, 5, 8-11, and 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boocock (US 4,802,886) in view of Liu et al (US 5,540,717).

Boocock teaches a continuous process for the manufacture of a ring-dyed filamentary material as mentioned above but is silent concerning quenching or cooling the filament after extrusion but prior to dyeing. However, it was known in the polymer filament manufacturing art, at the time the invention was made, to quench extruded molten polymer via a water bath prior to a dyeing step in order to solidify the filament prior to any further processing thereof as evidenced by Liu et al (see col. 4, lines 1-6 and lines 22-26). It would have been obvious to one of ordinary skill in the art to incorporate into the Boocock dyeing process, the step of quenching or cooling the filament following extrusion and prior to dyeing in order to solidify the filament before further processing.

With respect to claims 8-11, Boocock recognizes that the dyed filament can be subject to further processing steps by those skilled in the art (see col. 4, lines 16-19). Boocock is silent concerning the steps of stretching/tensioning and heating of extruded filament. However, it was known in the art at the time the invention was made, to stretch/tension and heat/anneal an extruded polymeric filament in order to effect its orientation, increase tensile strength, and allow the filament to recover or relax to result in a filament of a desired dimension as evidenced by Liu et al (see col. 3, lines 40-53 and col. 4, lines 26-30). It would have been obvious to one of ordinary skill in the art to subject the Boocock dyed filament to conventional filament processing

Art Unit: 1734

including stretching/tensioning and heating/annealing as taught by Liu et al in order to effect an enhanced or strengthened filament product of desired dimension.

With respect to claims 20-22, Boocock recognizes rinsing the dyed filament via a water bath in col. 4, lines 16-19 and col. 5, lines 27-30. Even though Boocock is silent concerning the water bath including driven rollers, Liu et al recognize the use of water bath systems including driven rollers as shown in Fig. 1A. In light of the teachings of Liu et al, it would have been obvious to one of ordinary skill in the art to include driving or feeding rollers as taught by Liu et al in the Boocock water bath system in order to feed and maintain the processed filament under water for a predetermined period of time.

With respect to claim 23, Boocock suggests winding the dyed filament but not explicitly on a reel (see col. 4, lines 16-19). However, it was known in the art at the time the invention was made, to wind a processed or dyed filament onto a take-up reel for storage and/or transportation as evidenced by Liu et al (see far right of Fig. 1A). It would have been obvious to one of ordinary skill in the art to wind the Boocock finished filament product on a take-up reel as taught by Liu et al in order to store the finished product and well as enable the transportation of the finished product.

Claims 4, 8-13, 15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boocock (US 4,802,886) in view of Hansen et al (US 5,399,195).

Boocock teaches a continuous process for the manufacture of a ring-dyed filamentary material as mentioned above but is silent concerning quenching or cooling the filament after extrusion but prior to dyeing. However, it was known in the polymer filament manufacturing art,

Art Unit: 1734

at the time the invention was made, to quench or air cool extruded molten polymer, especially an extruded molten polyamide or polyester material in order to solidify the filamentary material prior to any further processing thereof as evidenced by Hansen et al (see col. 7, lines 15-17). It would have been obvious to one of ordinary skill in the art to incorporate into the Boocock dyeing process, the step of quenching or cooling the filament following extrusion and prior to dyeing in order to solidify the filament before further processing.

With respect to claims 8-11, 15, and 17, Boocock recognizes that the dyed filament can be subject to further processing steps by those skilled in the art (see col. 4, lines 16-19). Boocock is silent concerning the steps of stretching/tensioning and heating of extruded filament. However, it was known in the art at the time the invention was made, to stretch/tension and heat/anneal an extruded polymeric filament in order to extend it, shrink it, and effect a filament of a desired dimension as evidenced by Hansen et al (see col. 7, lines 18-51). It would have been obvious to one of ordinary skill in the art to subject the Boocock dyed filament to conventional filament processing including stretching/tensioning and heating/annealing as taught by Hansen et al in order to effect an enhanced or strengthened filament product of desired dimension.

With respect to claims 12 and 13, Boocock is silent concerning the processed filament being lubricated following annealing. However, it was known in the art at the time the invention was made, to lubricate or wet a processed or annealed filamentary material in order to provide the filamentary material with a desired surface tension and facilitate handling of the filamentary material as evidenced by Hansen et al (see col. 7, lines 53+). It would have been obvious to one of ordinary skill in the art to lubricate the Boocock dyed filament as taught by Hansen et al in

Art Unit: 1734

order to provide a product with a desired surface tension as well as facilitate handling of the finished product.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boocock (US 4,802,886) in view of Curtin et al (US 3,706,111).

Boocock teaches a continuous process for the manufacture of a ring-dyed filamentary material as mentioned above but is silent concerning the filament produced being tapered. However, it was known in the art at the time the invention was made, to make a tapered polymeric filament via use of an extruder followed by pinch rollers which draw the extruded polymer at various speeds as evidenced by Curtin et al (see col. 3, lines 22-43). It would have been obvious to one of ordinary skill in the art to provide variably driven pinch rollers as taught by Curtin et al following the extrusion process of Boocock in order to provide a polymeric filament product of tapered shape.

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boocock (US 4,802,886) in view of Kotek et al (US 6,120,718).

Boocock teaches a continuous process for the manufacture of a ring-dyed filamentary material as mentioned above but is silent concerning the filament produced being hollow. However, it was known in the art at the time the invention was made, to make a hollow polymeric filament via use of an extruder followed by a spinnerette having orifices to make the filament hollow as evidenced by Kotek et al (see col. 4, lines 32-36). It would have been obvious to one of ordinary skill in the art to provide a spinnerette having orifices to make the

Art Unit: 1734

filament hollow, as taught by Kotek et al, following the extrusion process of Boocock in order to provide a polymeric filament product of hollow design.

Allowable Subject Matter

Claims 40-42 are allowable.

Claims 40-42 are allowable the prior art fails to teach or suggest a continuous process of ring-dyeing a filament including the steps of continuously extruding a polymer melt to form the filament; and continuously feeding the extruded filament into one or more tanks containing at least a first dye and a second dye, said second dye being different in color and more absorbed by the filament than said first dye; and, maintaining the filament in said one or more tanks for a predetermined period of time to provide a ring-dyed filament having an outer cross-sectional region colored by said first and second dyes and an inner cross-sectional region colored by said second dye only.

Conclusion


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patent discloses the state of the art with respect to methods of dyeing filaments or fibers: Stott (US 2,558,992), Wirth et al (US 3,111,357), and Wilkinson (US 3,944,386).

Art Unit: 1734

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura E. Edwards whose telephone number is (571) 272-1227. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is Not applicable.


Laura E. Edwards
Primary Examiner
Art Unit 1734

Le
January 23, 2004